

APPARITIONS AND VISIONS.*

THE perception of external objects depends on the rays of light entering the eye, and converging so as to produce images which make an impression on the retina, and, through the optic nerve, are recognized by the brain. The direction of the influences, so far as the observer is concerned, is from without to within; from the Object to the Brain.

But the inverse of this is possible. Impressions already existing in the brain may take, as it were, an outward direction, and be projected and localized among external forms. Or, if the eyes be closed, or the observer is in darkness, they will fill up the empty space before him with scenery of their own.

Inverse vision depends primarily on the condition that ancient impressions which are inclosed in the optic thalami, or registering ganglia, at the base of the brain, assume such a degree of relative intensity, that they can fix the attention of the mind. The moment that an equality is established, between the intensity

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of these vestiges and sensations contemporaneously derived from the outer world, or that the latter are wholly extinguished, as in sleep, inverse vision occurs, presenting itself, as the conditions may vary, under different forms—Apparitions, Visions, Dreams, Ecstasy, and Somnambulism.

From the moral effect to which these give rise, we are very liable to regard them as connected with the supernatural. In truth, however, they are the natural result of that play of the nervous mechanism which of necessity produces them whenever it is placed, either by normal, or morbid, or artificial causes, in the proper position. It can act either directly, as in ordinary vision, or inversely, as in cerebral sight, and in this respect resembles those instruments which equally yield a musical note, whether the air is blown through them or drawn in.

The hours of sleep constantly present us, in a state of perfect health, illusions which appear to address themselves to the eye rather than to any other sense, and these commonly combine into moving and acting sceneries, a dream being truly a drama of the night. In certain morbid states appearances of a like nature intrude themselves before us, even in the open day, but these being corrected by the realities with which they are surrounded, impress us very differently to the phantoms of our sleep. The want of union between such images and the things among which they have intruded themselves, the anachronism of their advent, or other obvious incongruity, restrain the mind from delivering itself up to that absolute belief in the reality which so completely possesses us in our dreams. Yet, nevertheless, such is the constitution of man, the bravest and the wisest encounter these fictions of their own organization with awe.

If we measure the importance of events occurring to us by their frequency, the depth of the impression they make, the influence they exert on our own individual career, or have exerted on the progress of the whole human race, there are very few more deserving the discussions of physiology than visual hallucinations. With respect to frequency, it may be reasonably said, that if images arise in the mind by night as thickly as sensible forms present themselves by day, it is not likely that they should be better borne in memory. But of the thousands of objects we encounter each day of our lives, how few there are that we can distinctly recollect at its close. We think we explain this wonderful forgetfulness by saying that we have paid no attention to them. And, in like manner, the dreams we remember are perhaps only a very insignificant proportion of those which have been presented to the mind.

It has been said that a belief in apparitions is an instinct with every man. However much we may dissent from the correctness of such an expression as broadly given, there can be no doubt that it has a foundation in truth. The faith of a child in this particular is only gradu-

ally sapped as he grows up to be a man. Nay, even in mature life, there may always be found those who have an unwavering confidence in the reality of these illusions, and many of these are persons characterized by their moral courage and love of truth. I have just remarked that few things have exerted a greater influence on the career of the human race than a firm belief in these spiritual visitations. The visions of the Arabian Prophet ended in tincturing the daily life of half the people of Asia and Africa for a thousand years. A spectre that appeared in the camp at Sardis, unnerved the heart of Brutus, and thereby put an end to the political system that had made the Great Republic the arbiter of the world. Another that appeared to Constantine strengthened his hand to the accomplishment of that most difficult of all the tasks of a statesman, the destruction of an ancient faith.

But these were all impostures, it may be said. Not so, they were no impostures of the persons to whom they are reported to have occurred, and who assuredly firmly believed in the real existence of what they thought they saw. To the two or three instances mentioned above, scores of a like kind might be added, which have issued in the committing of men to the most earnest kind of work. So often do historians notice an element of this kind mingling in the career of those who have made the deepest mark on our race, that some are to be found who assert the necessity of such a condition to any wide-spread and permanent political event. It is, they say, the want of an intense faith in some guiding object, which is at the bottom of all the uncertainties of modern times, and which is threatening civilization with shipwreck. There is wealth enough and strength enough on board, but there is wanting a mysterious needle, which will point forever in one direction, by day or by night, in calm or in storm. Whatever we may think of such a conclusion, the premises on which it is founded are well worthy of our consideration. The physiologist is not at liberty to deny that a lunatic and delirious man have faith in what they see. Their senses may deceive them, but they are not impostors. It is for him to consider how phantoms may arise in conditions of apparent health, as well as in states of disease; in the tranquillities of the solitary man as well as in the feverish excitement of the enthusiast.

Visual hallucinations are of two kinds: those which are seen when the eyes are open, and those perceived when they are closed. To the former the designation of Apparitions, to the latter that of Visions, may be given. Dreams, therefore, come under the latter class.

The simplest form of Apparition is that known among physicians as *muscæ volitantes*. These are dark specks, like flies, which seem to be floating in a devious path through the air. They are owing to disturbances or changes in the retina. They often appear to occupy the dy-

Of Visions the most common, because they can be voluntarily produced, are those which depend on the remains of impressions in the retina and optic centres. If, when we awake in the morning, our eyes are turned for a moment to a window or other bright object, and then closed, there still appears to the mind a spectral representation of the object, which gradually fades away. These illusions can be caused to have, as it were, a movement in the dark space before us, answering to the voluntary rotation of the eyeball. Sometimes, when the light is not sufficiently intense, or the nervous organs not sensitive enough, the vision does not make its appearance on the closing of the eyelids, but after fastening the attention on the position in which it is expected to come, it slowly emerges at last. That it consists in a real impression which has been registered in those organs, and is not a mere product of the unaided imagination, is very clear from the fact that we may discern, by attentively considering it, many little peculiarities which we have not had time to notice in the original object; thus if there has been a lace curtain, or other such well-marked body before us, we can not only see in the vision the places where its folds intersect the window-bars, but likewise, if the impression be a good one, all the peculiarities of its figured pattern. And that our conclusions in these respects are correct, is proved as soon as we reopen our eyes.

Between Apparitions and Visions is an intermediate class, of which it is not my object now to say much; they may, however, be styled Deceptions. These take their origin in some outward existing reality, and are exaggerations of the fancy. They are commonly encountered in the evening twilight, or in places feebly illuminated. Sir Walter Scott says of children that lying is natural to them, and that to tell the truth is an acquired habit. If they are thus by nature prone to deceive those around them, they are none the less prone to deceive themselves. To them a white object faintly descried in the obscurity, is easily expanded into a moving and supernatural thing.

In a physiological sense, I consider that simple apparitions arise from disturbances or disease of the retina, visions from the traces of impressions inclosed at a former time in the corpora quadrigemina and optic thalami. In their most highly marked state the former may be treated of as results of the insanity of the retina; the latter, as of cerebral vision.

Disturbance of the retina, brought on by any cause whatever, may give rise to simple spectral apparitions, which, as the circumstances change, will have an indefinite contour or a definite form. Nor are they merely shades and shadows; they may be presented in colors, which however are usually dim or subdued. Thus, if the eyelids being closed, we press gently with the tip of the finger on the inner or outer angle of one of the eyes, a gray spot surrounded by colors makes its appearance on the

opposite side of the same eye, and dances about as the pressure of the finger varies. With more extensive and heavier pressure clouds of various rainbow tints fill up all the imaginary space before us. In like manner, the passage of an electric current from a voltaic pair induces a flash of light of considerable brilliance. Internal pressures, and spontaneous variations in the rate of metamorphosis and nutrition of the retina, act in a manner analogous to external disturbances.

From the *muscæ volitantes*, which may be regarded as the first rudiments of apparitions, it is but a step to the intercalation of simple or even grotesque images among the real objects at which we are looking; and, indeed, this is the manner in which they always offer themselves, as resting or moving among the actually existing things. I do not undertake to say how far we are liable to practice deception upon ourselves after the manner we have spoken of in children, when we have once detected the fact that we are liable to this infirmity. An inanimate object—for instance a stick—is seen upon the floor, we go to pick it up, we find there is nothing there, we return to our first position; but we can observe no shadow or other reality that can be offered as an explanation of what we have seen, still less is there any spectre. An event of this kind predisposes us perhaps to return to that disposition of exaggeration so natural to our early life; and the next time the retina deceives us, we involuntarily give to the hallucination motion, and a more definite form.

Insects flying in the air, or rather floating in vacancy before us, present the incipient form of retinal malady. It may be provoked by undue use of the eyes, as reading by lamplight. I remark it constantly in my own case, after a prolonged use of the microscope. In a more aggravated form it less frequently occurs, as producing stars or sparks of light. From the earliest times physicians have observed that it is a "bad sign" when the patient localizes these images. "If the sick man says there be little holes in the curtains, or black spots on his bedclothes, then it is plain that his end is at hand."

Under the title of *Pseudoblepsis*, or false vision, medical authors enumerate several varieties of the foregoing phenomena. But when, as is most commonly the case, the derangement which gives origin to these appearances is not limited to the retina, but arising in some constitutional affection, involves more or less completely the entire nervous apparatus of the eye, retinal insanity and cerebral vision occur together. In those cases which have been investigated in a philosophical manner by the patients themselves, this complication is often distinctly recognized. Thus Nicolai, the Prussian bookseller, who published in the "Memoirs of the Royal Academy of Berlin" an interesting account of his own sufferings, states, that of the apparitions of men and women with which he was troubled, there were some which disappeared on shutting the eyes, but some did not.

In such a case, there can be no doubt that the disease affected the corpora quadrigemina and the optic thalami, as well as the retina.

This condition in which the receiving centres and registering ganglia at the base of the brain are engaged, is the one which yields the most striking instances of hallucinations in which apparitions and visions coexist. It can, like the less complicated forms, be brought on artificially, as in the delirium tremens, which follows a cessation from the customary use of alcohol, or in the exaltation induced by the purposed administration of opium or other drugs. In this, as in those forms, it is the localization of the phantom among the bodies and things around us that begins to give power to the illusion. The form of a cloud, no bigger than the hand, is perhaps first seen floating over the carpet; but this, as the eye follows it, takes on a sharp contour and definite shape, and the sufferer sees with dismay a moping raven on some of the more distant articles of furniture. Or, out of an indistinct cloud, faces, sometimes of most surprising loveliness, emerge, another face succeeding as the former dies away. The mind, ever ready to practice imposture upon itself, will at last accompany the illusion with grotesque or even dreadful inventions. A sarcophagus, painted after the manner of the Egyptians, distresses the visionary with the rolling of its eyes. Martin Luther thus more than once saw the devil under the well-known form popularly assigned to him in the Middle Ages.

As the nervous centres have become more profoundly involved, these visions become more impressive. Instead of a solitary phantom intruding itself among recognized realities, as the shade of a deceased friend opens the door and noiselessly steps in, the complicated scenes of a true drama are displayed. The brain becomes, as it were, a theatre. According as the travel or the reading of the sick man may have been, the illusion takes a style. Black vistas of Oriental architecture, that stretch away into infinite night; temples, and fanes, and the battlemented walls of cities; colossal Pharaohs sitting in everlasting silence, with their hands upon their knees; and perhaps, to complete the scene, in a quiet gleam of sunlight, among palm-trees, the camels reposing. "I saw," says De Quincey, in his "Confessions of an English Opium-Eater," "as I lay awake in bed, vast processions that passed along in mournful pomp, friezes of never-ending stories that, to my feelings, were as sad and solemn as if they were stories drawn from times before *Cedipus* and *Priam*, before *Tyre*, before *Memphis*. And at the same time a corresponding change took place in my dreams—a theatre seemed suddenly opened and lighted up within my brain, which presented nightly spectacles of more than earthly splendor."

Apparitions are the result of a false interpretation of impressions contemporaneously made of the retina; visions are the presentment of the relics of old ones which yet remain in the registering ganglia of the brain. We convince

ourselves of the truth of this general assertion, not so well from an examination of one or more well-related or authenticated cases, as from what may be termed the Natural History of Ghosts. The Greeks and Romans of antiquity were just as much liable to disorders of the nervous system as we are; but to them supernatural appearances came under mythologic forms—*Venus*, and *Mars*, and *Minerva*. The places of these were taken in the dreams of the ascetics of the Middle Ages by phantoms of the Virgin and the Saints. At a still later time in Northern Europe, and even in England, where the old pagan superstitions are scarcely yet rooted out of the vulgar mind, even though the Reformation has broken the system of ecclesiastical thought, Fairies, and Brownies, and Robin Goodfellows survived. The form of phantoms has changed with change in the creed of communities; and we may therefore, with good *Reginald Scot*, inquire, if the apparitions which have been seen by true men and brave men in all ages of the world were real existences, what has become of the swarms of them in these latter times?

One class of apparitions—perhaps it was the first to exist, as it is the last to remain—has survived all these changes; survived them because it is connected with a thing that never varies—the affection of the human heart. To the people of every age the images of their dead have appeared. They are not infrequent even in our own times. It would be an ungracious task to enter on an examination of the best authenticated of such reports. Inquiries of this kind can scarcely be covered from the liability to an imputation on personal veracity, perceptive power, or moral courage. And, after all, it is not necessary to entangle ourselves with these causes of offense. It is enough for us to perceive that even here incongruities may be pointed out. The Roman saw the shade of his friend clothed in the well-known toga, the European sees his in our own grotesque garb. The spirit of *Maupertius*, which stood by the bay-window of the library at Berlin, had on knee-breeches, silk stockings, and shoes with large silver buckles. To the philosopher it may, perhaps, occur, that it is very doubtful if, among the awful solemnities of the other world, the fashions ever vary. Let us pause before we carry the vanities of life beyond the grave.

From such reflections as the preceding, I think it may therefore be concluded, that there are two sources from which spectral appearances are derived. First: Disturbances of the retina, which present masses of light and shade, or colors to the mind; and these are worked by the fancy into definite forms on the same principle that we figure to ourselves pictures of faces among glowing embers. This constitutes retinal insanity. Second: Gradual emergence from the registering ganglia of the brain of old impressions, which are rendered as intense and distinct as contemporaneous sensations. The two forms may, however, co-exist. Of the latter

I may observe, that the views of Dr. Hibbert, in his work on Apparitions, appear to me to approach nearer to the truth than those of any other author. It will be perceived, however, after perusing his interesting book, that I have not laid the stress he has done on the mechanical influence of the circulation of the blood, but have viewed the effect as of a more purely nervous kind.

As this emergence of old images which have been registered in the optic thalami is not only connected with the physiological explanations we have given of the functions of the brain, but also occurs under circumstances of such singularity as to border upon the supernatural, we may pursue the consideration of it a little further. It may, I think, be broadly asserted, that all spectral appearances refer to things that are past—persons who are dead, events which have taken place, scenes that we have visited; or, if we have not the actual reality, then pictures, statues, or other such representatives thereof. It has never yet occurred that any one has seen a phantom, the indications of the bodily presence or representation of which, until that moment, he had never known. Thus, in the Middle Ages, the spectres of African negroes were common enough, but no man ever witnessed one of an American Indian; yet these, in their turn, prevailed after the voyage of Columbus. They were no strangers to the early colonial settlers. The same may be said of all kinds of inanimate objects.

As illustrating the manner in which impressions of the past may emerge from the registering ganglia, I shall here furnish an instance which borders close upon the supernatural, and fairly represents the most marvelous of these psychological phenomena. It occurred to a physician who related it in my hearing to a circle whose conversation had turned on the subject of personal fear. "What you are saying," he remarked, "may be very true, but I can assure you that the sentiment of fear, in its utmost degree, is much less common than you suppose; and though you may be surprised to hear me say so, I know, from personal experience, that it can be but little comprehended. When I was five or six years old, I dreamt that I was passing by a large pond of water in a very solitary place. On the opposite side of it there stood a great tree that looked as if it had been struck by lightning, and in the pond, at another part, an old fallen trunk, on one of the prone limbs of which there was a turtle sunning himself. On a sudden a wind arose, which forced me into the pond, and in my dying struggles to extricate myself from its green and slimy waters, I awoke trembling with terror.

"About eight years subsequently, while recovering from a nearly fatal attack of scarlet fever, this dream presented itself to me, identical in all respects, again. Even up to this time I do not think I had ever seen a living tortoise or turtle, but I indistinctly remembered there was the picture of one in the first spelling-book

that had been given me. Perhaps, on account of my critical condition, this second dream impressed me more dreadfully than the first.

"A dozen years more elapsed. I had become a physician, and was now actively pursuing my professional duties in one of the Southern States. It so fell out that, one July afternoon, I had to make a long and wearisome ride on horseback. It was Sunday, and extremely hot; the path was solitary, and not a house for miles. The forest had that intense silence which is so characteristic of this part of the day. All the wild animals and birds seemed to have gone to their retreats, to be rid of the heat of the sun. Suddenly, at one point of the road, I came upon a great stagnant water-pool, and casting my eyes across it, there stood a pine-tree blasted by lightning, and on a log that was nearly even with the surface a turtle was basking in the sun. The dream of my infancy was upon me; the bridle fell from my hands; an unutterable fear overshadowed me, as I slunk away from the accursed place.

"Though business occasionally afterward would have drawn me that way, I could not summon the resolution to go, and actually have taken roundabout paths. It seemed to me profoundly amazing that the dream I had had should, after twenty years, be realized without respect to difference of scenery, or climate, or age. A good clergyman of my acquaintance took the opportunity of improving the circumstance to my spiritual advantage; and in his kind enthusiasm—for he knew that I had more than once been brought to the point of death by such fevers—interpreted my dream that I should die of marsh miasma.

"Most persons have doubtless observed, that they suddenly encounter circumstances or events of a trivial nature, in their course of life, of which they have an indistinct recollection that they have dreamt before. It seemed for a long time to me that this was a case of that kind, and that it might be set down among the mysterious and unaccountable. How wonderful it is that we so often fail to see the simple explanation of things, when that explanation is actually intruding itself upon us! And so in this case, it was long before the truth gleamed in upon me, before my reasoning powers shook off the delusive impressions of my senses. But it occurred at last. For I said to myself, 'Is it more probable that such a mystery is true, or that I have dreamed for the third time that which I had already dreamed of twice before? Have I really seen the blasted tree and the sunning turtle? Are a weary ride of fifty miles, the noontide heat, the silence that could almost be felt, no provocatives to a dream? I have ridden under such circumstances many a mile, and have awoke and known it.' And so I resolved that if ever circumstances carried me to those parts again, I would satisfy myself as to the matter.

"Accordingly, when after a few years an incident led me to travel there, I revisited the well-

remembered scene. There still was the stagnant pool, but the blasted pine-tree was gone. And after I had pushed my horse through the marshy thicket as far as I could force him, and then dismounted and pursued a close investigation on foot, in every direction around the spot, I was clearly convinced that no pine-tree had ever grown there—not a stump nor any token of its remains could be seen. And so I have now concluded, that at the glimpse of the water, with the readiness of those who are falling asleep, I had adopted an external fact into a dream; that it had aroused the trains of thought which in former years had occupied me, and that, in fine, the mystery was all a delusion, and that I had been frightened with less than a shadow.”

The instructive story of this physician teaches us how readily, and yet how impressively the remains of old ideas may be recalled—how they may, as it were, be projected into the space beyond us, and take a position among existing realities. That such images arise from a physical impression which has formerly been made on the registering ganglia, it is impossible to doubt; and that for their emergence from their dormant state it is necessary that there should be a dulling or blunting of contemporaneous sensations, so that these latent relics may present themselves with a relatively equal force. This equalization of the intensity of an old impression with a present sensation may be brought about in two different ways: first, by diminishing the force of present sensations, as when we are in a reverie, or have fallen asleep; or by breathing vapors unsuited for the support of respiration. Second, by increasing the activity of those parts of the brain in which the old impressions are stored up. On each of these a few remarks may be made.

Cerebral vision depends on an equalization in intensity between present sensations and old impressions. So long as the former predominate in power, the latter excite no attention, or are wholly overlooked. This condition is illustrated by such facts as that the flame of a candle held against the sun is utterly overpowered and imperceptible, but is seen of its proper brightness when it is in presence only of another flame like itself. Or as the stars, which are concealed by day, are plain enough when the light is withdrawn. Ancient impressions, harbored in the optic thalami, can not make themselves felt against sensations just establishing themselves. For, as when we have looked at a bright window, and then close our eyes, the retinal phantom we see becomes paler and paler, and after a while dies out, so do cerebral images undergo a diminution of intensity with lapse of time, though it may be questioned whether they ever entirely waste away. The law which obtains in our economy for other organs of sense applies in these cases too. Even in contemporaneously occurring sensations, unless there is something like an equality between them, the weaker makes no impression upon

us. In the presence of a bright light a less brilliant one can not be seen; a feeble sound is made inaudible by an intensely loud one; minute variations of temperature become imperceptible when we are submitted to a great heat or cold. Ideas are no more than the vestiges of what were once sensations, and are subjected to the same physiological law. For them to become embodied, and to cheat the mind into a belief of their re-existence, equivalent in all regards to outward and actually existing things, the impressions of these latter must be diminished in their power, or the vigor of the former must be reinforced.

So when we are passing away into sleep, the organs of sense no longer convey their special impressions with the clearness and force that they did in our waking hours, and this gives to the decaying traces which are stored in the registering ganglia the power of drawing upon themselves the attention of the mind. So likewise in the delirium of fevers, the spectral phantoms which trouble the sick are first seen when the apartment is darkened and kept silent, especially when the patient closes his eyes. Until the senses are more completely overwhelmed, these shadows will disappear on brightly illuminating the room, or on opening the eyes. And so, too, in the hour of death, when outer things are losing their force upon the dim eye, and dull ear, and worn out body, images that have reference to the manner of our past life emerge, the innocent and good being attended in their solemn journey by visions in unison with their prior actions and thoughts; the evil with scenes of terror and despair. And it is right that it should be so.

The enfeebling of sensations which we are in the act of receiving from external sources, so as to bring them on an equality with those which have been long ago impressed, not only occurs in the condition of sleep and in the article of death, but may, in a temporary manner, be established by resorting to certain physical agents and drugs. Pressure upon the brain, either accidentally or purposely applied, is well known to produce such a result, and in like manner the inhalation of various agents, such as pure hydrogen gas, the vapor of ether or chloroform, or other non-supporters of respiration. On breathing these substances anaesthesia is soon induced; the external world is shut out; and on carrying forward the operation to its due extent, the mind and the brain are literally left to themselves. Opium acts in like manner, more particularly in the case of those who have accustomed themselves to its undue use. It, however, not only blunts the force of new impressions, but exerts a positive agency in intensifying the decaying remains of old ones. Under its full influence the true relations of space and of time disappear, a century of events is lived through in a single night, the vision can comprehend distances approaching to the infinite, and yet, in these circumstances, the mind does not perceive a riot of incongruous combi-

nations, but every thing is presented in a methodical and orderly way: pictures, all the parts of which are in just proportions and severe keeping to each other, and long sequences of events that maintain a mutual harmony.

But, as I have just remarked, the equalization of new sensations with old impressions, which is necessary for phantom appearances, and the incarnation and outward localization of ideas, that is, cerebral vision, may take place by heightening or reinforcing the old impressions as well as by diminishing the intensity of the new sensations. And as in the former case, so, in this, the result can be reached in many different ways. Whatever will cause increased functional activity of the cerebral structure, will recall these old images in force. It is almost unnecessary to allude to the delirium that attends inflammatory states of the brain; artificial experiments are more instructive.

For the purpose of increasing the functional activity of the cerebral structure, protoxide of nitrogen, by reason of its greater solubility in blood, exceeds in power even oxygen gas itself. This substance, when respired, at once awakens long trains of vivid ideas, the recollection of all kinds of former scenes. Its action is divisible into two periods, the first corresponding to the heightened sensibility arising from the increased oxidation it is establishing in the economy; the second, to the depression which soon comes on through the consequent accumulation of carbonic acid, and which the lungs and skin are unable, with sufficient quickness, to remove. Sir H. Davy, who first recognized its physiological power, has given us a graphic description of these effects. He says: "A thrilling, extending from the chest to the extremities, was almost immediately produced. I felt a sense of tangible extension highly pleasurable in every limb; my visible impressions were dazzling and apparently magnified. I heard distinctly every sound in the room, and was perfectly aware of my situation. By degrees, as the pleasurable sensation increased, I lost all connection with external things; trains of vivid, visible images rapidly passed through my mind, and were connected with words in such a manner as to produce sensations perfectly novel. I existed in a world of newly-connected and newly-modified ideas. When I was awakened from this semi-delirious trance by Dr. Kinglake, who took the bag from my mouth, indignation and pride were the first feelings produced by the sight of the persons about me. My notions were enthusiastic and sublime, and for a moment I walked round the room, perfectly regardless of what was said to me. As I recovered my former state of mind, I felt an inclination to communicate the discoveries I had made during the experiment. I endeavored to recall the ideas; they were feeble and indistinct. One recollection of terms however presented itself, and, with the most intense belief and prophetic manner, I exclaimed to Dr. Kinglake, 'Nothing exists but thoughts; the universe is

composed of impressions, ideas, pleasures, and pains.'"

In like manner, the intoxication that arises from alcohol has two distinct stages, depending on entirely different phases of its chemical action. At first there is an exaltation of effects, because of the increased functional activity established; but this, after a time, is succeeded by a dullness, or even stupefaction, attributable to the impression which the carbonic acid, arising from the destruction of the alcohol, is making upon the nervous centres.

By two different methods, therefore, ancient impressions may be equalized, as respects intensity, with new sensations. The vigor of the former may be increased, or the effect of the latter diminished.

Equalized in any way in their force, the mind is ready to confound its own ideas and external forms together. A cause which perhaps might seem to be too trivial fastens the attention, and at once a solitary form, or even the machinery of a long drama, emerges. It is no more possible for us to say why the thought runs in one course rather than another, and lays hold of image after image in succession, than we can foretell the way of a spark that moves darkling on the ashes of a piece of burnt paper. Yet it, too, runs in connected lines.

No better evidence can be given that the images we are speaking of are impressions of past events registered in the brain, and which gain the power of drawing upon themselves the attention of the mind, either by their assuming an unwonted intensity, or by the diminution of the influence of newly-arriving sensations, than the philosophical observations by some of those who have been liable to these infirmities on their own cases. Thus, in such a case recorded in "Nicholson's Philosophical Journal," and alluded to by Dr. Hibbert, "I had a visit," said the patient, "from Dr. C——, to whom, among other remarks, I observed, that I then enjoyed the satisfaction of having cultivated my moral habits, and particularly in having always endeavored to avoid being the slave of fear. I think, said I, that this is the breaking up of the system, and that it is now in progress to speedy destruction. In this state, when the senses have become confused, and no longer tell me the truth, they still present me with pleasing fictions, and my sufferings are mitigated by that calmness which allows me to find amusement in what are probably the concluding scenes of life. I give these self-congratulations without scruple, more particularly because they led to an observation of fact which deserves notice. When the doctor left me, my relaxed attention turned to the phantasms, and some time afterward, instead of a pleasing face, a visage of extreme rage appeared, which presented a gun at me, and made me start; but it remained the usual time, and then gradually faded away. This immediately showed me the probability of some connection between my thoughts and these images, for I ascribed the angry phantasm

to the general reflection I had formed in conversation with Dr. C. I recollected some disquisitions of Locke, in his treatise on the Conduct of the Mind, where he endeavors to account for the appearance of faces to persons of nervous habits. It seemed to me as if faces in all their modifications being so associated with our recollections of the affections of passions, would be most likely to offer themselves in delirium, but I now thought it probable that other objects could be seen if previously meditated upon. With this motive it was that I reflected upon landscapes and scenes of architectural grandeur, while the faces were flashing before me, and after a certain considerable interval of time, of which I can form no precise judgment, a rural scene of hills, valleys, and fields appeared before me, which was succeeded by another and another in ceaseless succession—the manner and times of their respective appearance, duration, and vanishing, being not sensibly different from that of the faces. All the scenes were calm and still, without any strong lights or glare, and delightfully calculated to inspire notions of retirement, of tranquillity, and happy meditation." The same writer adds, in another place, "The figures returned, but now they consisted either of books, or parchments, or papers containing printed matter. I do not know whether I read any of them, but am at present inclined to think that they were not distinctly legible, or did not remain a sufficient time before they vanished. I was now so well aware of the connection of thought with their appearance, that by fixing my mind on the consideration of manuscript instead of printed type, the papers appeared after a time only with manuscript writing; and afterward, by the same process, instead of being erect they were all inverted, or appeared upside down."

We can not fail to remark the close resemblance between these illusions arising from a fixed meditation on recollected scenery, and the phantoms which are witnessed after our gaze has been steadily directed to some brightly-illuminated object, as a window, when we first awake. In both there is the same subdued and uncertain brilliancy of effect; in both the same gradual fading away; in both the mind does not refer the image it contemplates to an inward point or place, but sets it forth outwardly, projecting it into the empty or occupied region beyond. In inverse as in ordinary vision, the law of the line of visible direction is enforced, and this reference of cerebral images to a definite point in outer space, is a phenomenon of the same kind as the appearance of the invisible coin on pouring water into a basin, the lifting of ships into the air by atmospheric refraction, the appearance of the sun and moon every day above the horizon before they have actually risen and after they have set, and many other optical illustrations that might be mentioned.

Physiology, though full of teleological illustrations—that is, examples of the use of means for the accomplishment of an end—has none

more worthy of consideration than this of inverse vision. Men in every part of the world, even among nations the most abject and barbarous, have an abiding faith not only in the existence of a spirit that animates us, but also in its immortality. Of these there are multitudes who have been shut out from all communion with civilized countries, who have never been enlightened by Revelation, and who are mentally incapable of reasoning out for themselves arguments in support of those great truths. Under such circumstances, it is not very likely that the uncertainties of tradition derived from remote ages could be any guide to them; for traditions soon disappear, except they are connected with the wants of daily life. Can there be, in a philosophical view, any thing more interesting than the manner in which these difficulties have been compensated, by implanting in the very organization of every man means of constantly admonishing him of these facts, of recalling them with an unexpected vividness before him, even after they have become so faint as almost to die out? Let him be as debased and benighted a savage as he may, shut out from all communion with races whom Providence has placed in happier circumstances, he has still the same organization, and is liable to the same physiological incidents as ourselves. Like us he sees in his visions the fading forms of landscapes that are perhaps connected with some of his most grateful recollections; and what other conclusion can he possibly derive from these unreal pictures, but that they are the foreshadowings of another land beyond that in which his lot is cast? Like us he is visited at intervals by the resemblances of those whom he has loved or hated while they were alive; nor can he ever be so brutalized as not to discern in such manifestations suggestions which to him are incontrovertible proofs of the existence and immortality of the soul. Even in the most refined social conditions we are never able to shake off the impression of these occurrences, and are perpetually drawing from them the same conclusions as did our uncivilized ancestors. Our more elevated condition of life in no respect relieves us from the inevitable consequences of our own organization, any more than it relieves us from infirmities and disease. In these respects, all over the globe we are on an equality. Savage or civilized, we carry about within us a mechanism intended to present us with mementoes of the most solemn facts with which we can be concerned, and the voice of history tells us that it has ever been true to its design. It wants only moments of repose or of sickness, when the influence of external things is diminished, to come into full play, and these are precisely the moments when we are best prepared for the truths it is going to suggest. Such a mechanism is in keeping with the manner in which the course of Nature is fulfilled, and bears in its very style the impress of invariability of action. It is no respecter of persons. It neither permits the haughtiest to be free from the monitions, nor leaves the

humblest without the consolations of a knowledge of another life. Liable to no mischances nor loss, open to no opportunity of being tampered with by the designing or interested, requiring no extraneous human agency for its effect upon every man, but involuntarily ever present with each wherever he may go, it marvelously extracts from vestiges of the impressions of the past overwhelming proofs of the reality of the future; and, gathering its power from what would seem to be a most unlikely source, it insensibly leads us, no matter who or where we may be, to a profound belief in the immortal and imperishable, from phantoms which have scarcely made their appearance before they are ready to vanish away.

It is scarcely necessary for me to do more than barely refer to the assertions of those who would have it believed that they look upon all these appearances as fictions and deliberate impostures. What is to become of all history if such a doctrine could be maintained? Human evidence must be regarded as utterly worthless! Moreover, no one denies the existence of dreams, and the phenomena we have here been treating of are philosophically of the same order.

